Research on the Innovation of the "Intelligent Industry-Academia-Research-Tourism" Curriculum System in Private Universities

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Abstract

In elaborating on the 2026 government work tasks, the Government Work Report proposed to further advance the "AI +" initiative, accelerate the popularization of a new generation of intelligent terminals and intelligent agents, boost the large-scale commercial application of artificial intelligence in key industrial sectors, and foster new intelligent native business forms and models. themed "Artificial Intelligence and Educational Transformation". Centering on the implementation of the Outline for the Construction of an Education Power (2024-2035) and the high-quality execution of the three-year action plan, the conference made a systematic deployment to elevate the development of the National Smart Education Platform to a new level. At present, artificial intelligence is experiencing a booming development, and innovation and learning capabilities are the core competitiveness of the future.

Keywords

AI+, National Education Digitalization Strategic Action, Artificial Intelligence and Educational Transformation, Educational Ecology Restructuring.

1. Introduction

Private universities in Liaoning Province have formed distinct practical characteristics in innovating the "Intelligent Industry-Academia-Research-Tourism" curriculum system, with their efforts mainly focusing on industry-education integration, technological empowerment and the demands of regional industries. With a view to providing theoretical support and practical references for the innovative development of digital animation education, and offering insights for the reform and optimization of digital animation education in the future.[1]

These universities explore the integration path of the "Intelligent Industry-Academia-Research-Tourism" model through school-enterprise collaboration, technological innovation and the construction of industrial colleges. In recent years, Liaoning Province has promoted industry-education integration through policy guidance and platform construction. Issued in 2024, the document Building a New Pattern of Industry-Education Integration to Serve Liaoning's Comprehensive Revitalization and New Breakthroughs proposed to establish a national industry-education integration consortium for the industrial machine tool sector, set up 10 industry-education integration consortia covering fields such as petrochemical engineering and robotics, and encourage vocational colleges to jointly build rural revitalization colleges with county-level enterprises, so as to strengthen the connection between talent cultivation and regional industrial development. In addition, the Department of Education of Liaoning Province supports private universities in building "Model Smart Education Universities".

2. Academic and Applied Value of Curriculum System Innovation

2.1. Academic Value

First, it supplements and innovates the theoretical framework. In terms of expanding the theoretical system of private higher education, current domestic research on the curriculum system of private universities mostly focuses on the single dimension of "Industry-Academia-Research" or "industry-education integration". Break through the stereotyped thinking inertia of humans and realize a milestone innovation in visual expression.[2] which refers to the cross-border integration of industry, academia, research and tourism driven by smart technologies, is an upgrade of the traditional industry-academia-research model.

Second, it achieves breakthroughs and sets a demonstration in research methods. The innovative application of mixed research methods adopts a combination of quantitative analysis and qualitative research. At the quantitative level, the impact of the "Intelligent Industry-Academia-Research-Tourism" curriculum on students' employability is verified through questionnaire surveys (e.g., curriculum data of 50 private universities in Liaoning Province) and big data analysis (e.g., the matching degree between enterprise recruitment demands and curriculum content). At the qualitative level, replicable curriculum innovation models are refined through case analysis and in-depth interviews with enterprise technical experts and university teachers.

2.2. Applied Value

First, it provides practical guidance for private universities in Liaoning Province, helping them optimize the curriculum system and improve the quality of talent cultivation. Aiming at the problem that the curriculum content of private universities in Liaoning Province lags behind industrial demands, this research puts forward a modular curriculum design scheme, strengthens school-enterprise collaboration to solve the disconnection between theoretical teaching and practical application by building a three-level collaboration mechanism, serves the upgrading of regional industries to enhance the contribution of universities, and aligns with the industrial demands of Liaoning's time-honored brands, traditional advantageous industries and emerging industries.

Second, it sets a demonstration for private higher education across the country and provides a Liaoning Model for similar regions. Foreign universities have taken a pioneering step in actively exploring the application of AIGC technology in the teaching of film and television animation.[3] As an old industrial base in Northeast China, Liaoning Province's private universities face industrial transformation pressures similar to those in the central and western provinces of China. The curriculum innovation model oriented to traditional industrial upgrading proposed in this research can be replicated and promoted in Jilin, Heilongjiang, Shanxi and other regions, facilitating the coordinated development of regional higher education and industries. Powered by its robust content generation capabilities, AIGC elevates the visual experience in film production.[4]

3. Research Content of Curriculum System Innovation

3.1. Research Objects

The core research object is the curriculum system of private universities in Liaoning Province, with the research scope focusing on private general higher education institutions within the administrative region of Liaoning Province. Centering on the integration goal of "Intelligent Industry-Academia-Research-Tourism", the research focuses on the following aspects: the penetration degree of smart technologies (AI, big data, multimodality, etc.) in the curriculum; the matching degree between industrial demands and curriculum objectives. In terms of

curriculum content, it studies the integration mode of traditional professional courses with artificial intelligence technology and industrial practice, as well as the development and implementation path of the interdisciplinary curriculum of "Intelligent Generation + Cultural Tourism". In terms of curriculum implementation, The application strategy of AIGC technology in college animation curriculum teaching lies in innovating teaching philosophy and enriching teaching content.[5] In terms of curriculum evaluation, it formulates assessment criteria for students' abilities including smart technology application ability, industrial problem-solving ability and cross-field collaboration ability, and conducts follow-up analysis on curriculum effect evaluation indicators such as graduates' employment quality (e.g., professional matching rate and starting salary level), enterprise satisfaction and regional industrial contribution.

3.2. Overall Framework

Taking private universities in Liaoning Province as the research object, this study focuses on the innovation of the "Intelligent Industry-Academia-Research-Tourism" curriculum system. Aiming at the current situation where the curriculum of private universities is disconnected from industrial development against the backdrop of industrial upgrading, it clarifies the academic and practical value of the research, sorts out the current research status at home and abroad and defines the mixed research methods to be adopted. It defines the core concept of "Intelligent Industry-Academia-Research-Tourism", and based on theories such as industry-education integration, deeply analyzes the development overview, existing characteristics and restrictive factors of the curriculum system of private universities in Liaoning Province. Then, it puts forward innovation paths from four aspects: AIGC represents an entirely new paradigm for content creation. [6]curriculum objective reconstruction, content design, implementation optimization and evaluation reform, and analyzes practical experience combined with typical cases inside and outside the province. It predicts the innovation effect by constructing a multi-dimensional evaluation index system and adopting a combination of quantitative and qualitative methods. Finally, it puts forward safeguard measures and policy suggestions from the perspectives of internal faculty construction, resource allocation and management mechanism of universities, as well as external policy support and industry association guidance, and ultimately summarizes the research achievements, points out the research deficiencies and prospects the future research directions.

3.3. Key Points and Difficulties

3.3.1. Research Key Points

The in-depth integration mechanism of the five elements of "Intelligent Industry-Academia-Research-Tourism": exploring how to break the simple superposition mode of the traditional industry-academia-research model, realize the empowerment and efficiency improvement of smart education technology to industry, academia, scientific research and cultural tourism, and form a three-dimensional collaborative logic of technology-driven - demand-oriented - culture-empowered.

The design of characteristic development paths for private universities: combining the flexible school-running mechanism of private education, exploring light-asset and high-efficiency school-enterprise cooperation models (e.g., virtual industrial colleges and project package-style project platforms) to solve the contradiction between limited resources and the high investment demands of the industry.

The innovative integration of regional culture and the animation industry: taking the integration of culture, sports and tourism as the starting point, The appropriate application of AIGC technology in animation professional courses.[7]

3.3.2. Research Difficulties

The complexity of cross-field collaboration: the "Intelligent Industry-Academia-Research-Tourism" model involves multiple disciplines such as AI technology, industrial economy, cultural creativity and tourism management. It is necessary to coordinate the interest demands of multiple stakeholders including universities, enterprises, the government and industry associations, and it is quite challenging to establish a long-term and stable cooperation mechanism.

3.4. Main Objectives

3.4.1. Theoretical Framework Construction and Practical Path Exploration

Clarify the connotation, element relationship and operation logic of the "Intelligent Industry-Academia-Research-Tourism" teaching system, and form theoretical support for the characteristic talent cultivation of the animation major in private universities. Break the traditional teaching barriers, establish a three-dimensional teaching model empowered by smart education technology, driven by industrial demands, supported by the transformation of scientific research achievements and integrated with cultural tourism resources, With the advancement of technology, it is expected that more innovative approaches will emerge in the future.[8]

3.4.2. Improvement of Quality Evaluation System and Innovation of Characteristic Models

Construct a talent cultivation quality evaluation index based on industrial standards, improve students' comprehensive abilities in digital creativity, project practice, cultural communication and other aspects, and promote the accurate connection between the animation major education in private universities and industry positions. Tap the advantages of private universities in school-running mechanism and resource integration, combine regional culture and tourism resources, and form a replicable and promotable collaborative education paradigm of "Intelligent Industry-Academia-Research-Tourism". From character design and scene rendering to full-process optimization, AIGC technology has greatly improved creative efficiency and further fostered the diversification and personalization of content.[9]

4. Innovations

4.1. Academic Thought

With the core academic thought of cross-border integration and collaborative innovation driven by artificial intelligence, this research breaks the limitations of the traditional industry-academia-research model, emphasizes the in-depth integration of smart technologies such as artificial intelligence, big data and multimodality into the curriculum system of private universities, and promotes the organic integration of industrial demands, academic research, technological innovation and tourism scenarios.

4.2. Academic Views

Curriculum system reconstruction: the traditional curriculum system of private universities has such problems as disconnection from industrial development and insufficient application of artificial intelligence. It is necessary to reconstruct a modular curriculum system of "Generative Technology + Cultural Tourism Industry-Oriented Majors + Interdisciplinary Integration" oriented to the upgrading demand of Liaoning's cultural tourism industry, break disciplinary barriers and cultivate compound applied talents.

4.3. Characteristics and Innovations

4.3.1. Conceptual System Innovation

It is the first time to put forward the five-in-one teaching system of "Intelligent Industry-Academia-Research-Tourism", which breaks through the traditional framework of "Industry-Academia-Research", incorporates artificial intelligence (Intelligence) and cultural tourism integration (Tourism) into the core elements, and constructs a new talent training model adapted to the development of the digital creative industry.

4.3.2. Private Education Characteristic Model

Focusing on the institutional flexibility and market sensitivity of private universities, it designs a demand-oriented dynamic curriculum adjustment mechanism and a lightweight school-enterprise cooperation path (e.g., introducing industry tutor studios and jointly building online resource libraries), forming a differentiated development path distinct from that of public universities.

5. Conclusion

Improve the quality of talent cultivation: Emerging technologies including AIGC are utilized to continuously innovate and diversify digital presentation and dissemination approaches. through the innovation of the "Intelligent Industry-Academia-Research-Tourism" curriculum system, students' abilities in smart technology application, industrial practice and cross-field innovation are cultivated, which improves graduates' employability and career development potential, alleviates the contradiction between the supply and demand of industrial talents in the region, and provides talent support for Liaoning's industrial upgrading. It is expected that more than 1,000 high-quality applied talents will be delivered to regional industries every year, and the professional matching rate of graduates will increase by more than 20%.

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